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Joint Polar Satellite System (JPSS) Algorithm Specification Volume I: Software Requirement Specification (SRS) for the Aerosol Products

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National Aeronautics and
Space Administration

Goddard Space Flight Center
Greenbelt, Maryland

Joint Polar Satellite System (JPSS) Algorithm Specification Volume I: Software Requirement Specification (SRS) for the Aerosol Products JPSS Review/Approval Page

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Preface

This document is under JPSS Ground Project configuration control. Once this document is approved, JPSS approved changes are handled in accordance with Class I and Class II change control requirements as described in the JPSS Configuration Management Procedures, and changes to this document shall be made by complete revision.

Any questions should be addressed to:

JPSS Configuration Management Office
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Change History Log

Revision	Effective Date	Description of Changes (Reference the CCR & CCB/ERB Approve Date)
Rev-	Aug. 29, 2013	This version incorporates 474-CCR-13-1189 which was approved by JPSS Ground ERB on the effective date shown.
A	Jan 16, 2014	This version incorporates 474-CCR-13-1420 and 474-CCR-13-1360 which was approved by JPSS Ground ERB on the effective date shown.
A1	Oct 23, 2014	This version incorporates 474-CCR-14-2091 which was approved by the JPSS Ground ERB for CO10 on the effective date shown.
B	Oct. 23, 2014	This version incorporates 474-CCR-14-1721, 474-CCR-14-1741, 474-CCR-14-1781, and 474-CCR-14-2076 which was approved by JPSS Ground ERB on the effective date shown.
C	Feb 12, 2016	This version incorporates 474-CCR-14-2110, 474-CCR-15-2452, 474-CCR-15-2480, 474-CCR-15-2657, and 474-CCR-16-2777 which was approved by JPSS Ground ERB on the effective date shown.
0200D	Sep 22, 2016	This version incorporates 474-CCR-16-2939, and 474-CCR-16-3049 which was approved by JPSS Ground ERB on the effective date shown.

Table of TBDs/TBRs

TBx	Type	ID	Text	Action
None				

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1 Introduction

The Joint Polar Satellite System (JPSS) is the National Oceanic and Atmospheric Administration's (NOAA) next-generation operational Earth observation program that acquires and distributes global environmental data primarily from multiple polar-orbiting satellites. The program plays a critical role in NOAA's mission to understand and predict changes in weather, climate, oceans and coasts, and the space environment, which support the Nation's economy and protect lives and property. The first JPSS satellite mission, the Suomi National Polar-orbiting Partnership (S-NPP) satellite, successfully launched in October 2011. S-NPP, along with the legacy NOAA Polar Operational Environmental Satellites (POES), provides continuous environmental observations. Two JPSS satellites will follow S-NPP: JPSS-1, planned for launch in fiscal year (FY) 2017, with JPSS-2 to follow in FY2021. In the future, the JPSS Polar Follow-On (PFO) provides for two additional missions, JPSS-3 and JPSS-4, as follow-on to the JPSS-2 mission to extend the JPSS Program lifecycle out to 2038.

In addition to the JPSS Program's own satellites operating in the 1330 (±10) Local Time of the Ascending Node (LTAN) orbit, NOAA also leverages mission partner assets for complete global coverage. These partner assets include the Department of Defense (DoD) Defense Meteorological Satellite Program (DMSP) operational weather satellites (in the 1730 - 1930 LTAN orbit), the European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT) Meteorological Operational (Metop) satellites (in the 2130 LTAN orbit) and the Japanese Aerospace Exploration Agency (JAXA) Global Change Observation Mission-Water (GCOM-W) satellite (in the 1330 LTAN orbit). JPSS routes Metop data from McMurdo Station, Antarctica to the EUMETSAT facility in Darmstadt, Germany and EUMETSAT, in turn, provides Metop data to NOAA. For GCOM, JPSS routes the GCOM-W data from Svalbard, Norway to the NOAA Satellite Operations Facility (NSOF) in Suitland, MD, processes GCOM-W data and delivers GCOM-W products to the JPSS users who have JAXA permissions.

Additionally, the JPSS Program provides data acquisition and routing support to the DMSP and the WindSat Coriolis Program. JPSS routes DMSP data from McMurdo Station to the 557th Weather Wing at Offutt Air Force Base in Omaha, NE. After processing, the 557th releases the DMSP data for public consumption over the Internet via the National Geophysical Data Center in Boulder, CO. The JPSS Program provides data routing support to the National Science Foundation (NSF), as well as the National Aeronautics and Space Administration (NASA) Space Communications and Navigation (SCaN)-supported missions, which include the Earth Observing System (EOS). As part of the agreements for the use of McMurdo Station, JPSS provides communications/network services for the NSF between McMurdo Station, Antarctica and Centennial, Colorado.

As a multi-mission ground infrastructure, the JPSS Ground System supports the heterogeneous constellation of the before-mentioned polar-orbiting satellites both within and outside the JPSS Program through a comprehensive set of services as listed in Table 1-1.

Table: 1-1 JPSS Ground System Services

Service	Description
Enterprise Management and Ground Operations	Provides mission management, mission operations, ground operations, contingency management and system sustainment
Flight Operations	Provides launch support and early orbit operations, telemetry and commanding, orbital operations, mission data playback, payload support, flight software upgrade, flight vehicle simulation, and disposal at the end of mission life
Data Acquisition	Provides space/ground communications for acquiring mission data
Data Routing	Provides routing of telemetry, mission and/or operations data through JPSS' global data network
Data Product Generation	Provides the processing of mission data to generate and distribute raw, sensor, environmental, and ancillary data products
Data Product Calibration and Validation	Provides calibration and validation of the data products
Field Terminal Support	Provides development and operational support to the Field Terminal customers

1.1 Identification

This SRS provides requirements for aerosol products: the combined Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR, the Suspended Matter EDR, and some aerosol-related intermediate products.

1.2 Algorithm Overview

The aerosol optical thickness is retrieved for a range of wavelengths from 0.4 to 2.25 microns. The aerosol size parameter consists of the angstrom exponent computed from optical thicknesses at two wavelengths. The algorithm uses a look-up table of atmospheric parameters.

1.3 Document Overview

Section	Description
Section 1	Introduction - Provides a brief overview of the JPSS Ground System and the relevant algorithm, as reference material only.
Section 2	Related Documentation - Lists related documents and identifies them as Parent, Applicable, or Information Documents such as, MOAs, MOUs, technical implementation agreements, as well as Data Format specifications. This section also establishes an order of precedence in the event of conflict between two or more documents.
Section 3	Algorithm Requirements - Provides a summary of the science requirements for the products covered by this volume.
Appendix A	Requirements Attributes - Provides the mapping of requirements to verification methodology and attributes.

2 Related Documentation

The latest JPSS documents can be obtained from URL: https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm. JPSS Project documents have a document number starting with 470, 472 or 474 indicating the governing Configuration Control Board (CCB) (Program, Flight, or Ground) that has the control authority of the document.

2.1 Parent Documents

The following reference document(s) is (are) the Parent Document(s) from which this document has been derived. Any modification to a Parent Document will be reviewed to identify the impact upon this document. In the event of a conflict between a Parent Document and the content of this document, the JPSS Program Configuration Change Board has the final authority for conflict resolution.

Doc. No.	Document Title
470-00067	Joint Polar Satellite System (JPSS) Ground System Requirements Document (GSRD)
470-00067-02	Joint Polar Satellite System (JPSS) Ground System Requirements Document (GSRD), Volume 2 - Science Product Specification
474-00448-01	Joint Polar Satellite System (JPSS) Algorithm Specification Volume I: Software Requirements Specification (SRS) for the Common Algorithms

2.2 Applicable Documents

The following document(s) is (are) the Applicable Document(s) from which this document has been derived. Any modification to an Applicable Document will be reviewed to identify the impact upon this document. In the event of conflict between an Applicable Document and the content of this document, the JPSS Program Configuration Change Board has the final authority for conflict resolution.

Doc. No.	Document Title
474-00448-02-12	Joint Polar Satellite System (JPSS) Algorithm Specification Volume II: Data Dictionary for the Aerosol Products
474-00448-04-12	Joint Polar Satellite System (JPSS) Algorithm Specification Volume IV: Software Requirements Software Parameter File (SRSPF) for the Aerosol Products
D0001-M01-S01-020	Joint Polar Satellite System (JPSS) VIIRS Aerosol Optical Thickness (AOT) and Particle Size Parameter Algorithm Theoretical Basis Document (ATBD)
D0001-M01-S01-019	Joint Polar Satellite System (JPSS) VIIRS Suspended Matter Algorithm Theoretical Basis Document (ATBD)

2.3 Information Documents

The following documents are referenced herein and amplify or clarify the information presented in this document. These documents are not binding on the content of this document.

Doc. No.	Document Title
474-00333	Joint Polar Satellite System (JPSS) Ground System (GS) Architecture Description Document (ADD)

Doc. No.	Document Title
474-00054	Joint Polar Satellite System (JPSS) Ground System (GS) Concept of Operations (ConOps)
470-00041	Joint Polar Satellite System (JPSS) Program Lexicon
474-00448-03-12	Joint Polar Satellite System (JPSS) Algorithm Specification Volume III: Operational Algorithm Description (OAD) for the Aerosol Products
429-05-02-42	Joint Polar Satellite System (JPSS) Mission Data Format Control Book for NPP
472-00251	Joint Polar Satellite System (JPSS) Mission Data Format Control Book for JPSS-1

3 Algorithm Requirements

3.1 States and Modes

3.1.1 Normal Mode Performance

SRS.01.12_311 The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR algorithm shall calculate the aerosol product at 412, 445, 488, 550, 555, 672, 746, 865, 1240, 1610, and 2250 nm.

Rationale: The aerosol product generation based on the available VIIRS bands was flowed down from the Level 1 and Level 2 documents. Measurement range covers from 0 to 5 Tau but APU are verified only at 550 nm and over the Measurement Range 0 – 2 Tau.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.12_312 The VIIRS Suspended Matter EDR algorithm shall detect dust, volcanic ash, and smoke at any altitude.

Rationale: The Suspended Matter (SM) detection category was flowed down from the Level 1 and Level 2 documents. SM must meet its performance specifications only for "high" quality SM pixels when AOT is 0.5 or higher.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.12_353 The Suspended Matter EDR algorithm shall provide smoke concentrations between 0 and 150 micrograms per cubic meter.

Rationale: The nominal measurement range for smoke type can be 0 - 1000 microgram per cubic meter. SM must meet its performance specifications only for "high" quality SM pixels when AOT is 0.5 or higher.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.12_354 The Suspended Matter EDR algorithm probability of correct typing of suspended matter shall be 80% or better.

Rationale: The probability of correct typing was flowed down from the Level 1 and Level 2 documents. SM must meet its performance specifications only for "high" quality SM pixels when AOT is 0.5 or higher.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.12_355 The Suspended Matter EDR algorithm probability of correct typing of dust shall be 80% or better.

Rationale: The probability of correct typing was flowed down from the Level 1 and Level 2 documents. SM must meet its performance specifications only for "high" quality SM pixels when AOT is 0.5 or higher.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.12_356 The Suspended Matter EDR algorithm probability of correct typing of volcanic ash shall be 60% or better.

Rationale: The probability of correct typing was flowed down from the Level 1 and Level 2 documents. SM must meet its performance specifications only for "high" quality SM pixels when AOT is 0.5 or higher.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.12_357 The Suspended Matter EDR algorithm probability of correct typing of smoke shall be 70% or better.

Rationale: The probability of correct typing was flowed down from the Level 1 and Level 2 documents. SM must meet its performance specifications only for "high" quality SM pixels when AOT is 0.5 or higher.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.12_364 The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR algorithm shall calculate the aerosol optical thickness (AOT) with the measurement range of 0 to 2 in Tau.

Rationale: The performance values were flowed down from the Level 1 and Level 2 documents. The range likely should be from (negative) -0.05 to +5 (to satisfy air quality applications and to make it consistent with the range in MODIS retrievals). Evaluation, however should be performed in the AOT range of 0-2.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.12_365 The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR algorithm shall calculate the AOT with the measurement accuracy of 0.08 or better over Ocean when Tau < 0.3.

Rationale: The performance values were flowed down from the Level 1 and Level 2 documents. The AOT product accuracy and precision are to be determined by comparing it to AERONET with specific matchup criteria: The VIIRS AOTs from pixels within a radius of 27.5 km from AERONET station are averaged and compared to hourly average of AERONET AOT; a minimum of five best quality VIIRS AOT retrievals and two AERONET observations must be available within these spatial and temporal constraints. AERONET AOT data, if observed at wavelengths other than 550 nm, should be interpolated to 550 nm using the best available methodologies Product evaluation should include the entire dynamic range, all aerosol types over all seasons.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.12_366 The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR algorithm shall calculate the AOT with the measurement accuracy of 0.15 or better over Ocean when Tau is > or = 0.3.

Rationale: The performance values were flowed down from the Level 1 and Level 2 documents. The AOT product accuracy and precision are to be determined by comparing it to AERONET with specific matchup criteria: The VIIRS AOTs from pixels within a radius of 27.5 km from

AERONET station are averaged and compared to hourly average of AERONET AOT; a minimum of five best quality VIIRS AOT retrievals and two AERONET observations must be available within these spatial and temporal constraints. AERONET AOT data, if observed at wavelengths other than 550 nm, should be interpolated to 550 nm using the best available methodologies Product evaluation should include the entire dynamic range, all aerosol types over all seasons.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.12_367 The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR algorithm shall calculate the AOT with the measurement accuracy of 0.06 or better over Land when Tau < 0.1.

Rationale: The performance values were flowed down from the Level 1 and Level 2 documents. The AOT product accuracy and precision are to be determined by comparing it to AERONET with specific matchup criteria: The VIIRS AOTs from pixels within a radius of 27.5 km from AERONET station are averaged and compared to hourly average of AERONET AOT; a minimum of five best quality VIIRS AOT retrievals and two AERONET observations must be available within these spatial and temporal constraints. AERONET AOT data, if observed at wavelengths other than 550 nm, should be interpolated to 550 nm using the best available methodologies Product evaluation should include the entire dynamic range, all aerosol types over all seasons.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.12_368 The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR algorithm shall calculate the aerosol optical thickness (AOT) with the measurement accuracy of 0.05 or better over Land when Tau is between 0.1 and 0.8.

Rationale: The performance values were flowed down from the Level 1 and Level 2 documents. The AOT product accuracy and precision are to be determined by comparing it to AERONET with specific matchup criteria: The VIIRS AOTs from pixels within a radius of 27.5 km from AERONET station are averaged and compared to hourly average of AERONET AOT; a minimum of five best quality VIIRS AOT retrievals and two AERONET observations must be available within these spatial and temporal constraints. AERONET AOT data, if observed at wavelengths other than 550 nm, should be interpolated to 550 nm using the best available methodologies Product evaluation should include the entire dynamic range, all aerosol types over all seasons.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.12_369 The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR algorithm shall calculate the AOT with the measurement accuracy of 0.2 or better over Land when Tau > 0.8.

Rationale: The performance values were flowed down from the Level 1 and Level 2 documents. The AOT product accuracy and precision are to be determined by comparing it to AERONET with specific matchup criteria: The VIIRS AOTs from pixels within a radius of 27.5 km from AERONET station are averaged and compared to hourly average of AERONET AOT; a

minimum of five best quality VIIRS AOT retrievals and two AERONET observations must be available within these spatial and temporal constraints. AERONET AOT data, if observed at wavelengths other than 550 nm, should be interpolated to 550 nm using the best available methodologies Product evaluation should include the entire dynamic range, all aerosol types over all seasons.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.12_370 The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR algorithm shall calculate the AOT with the measurement precision of 0.15 or better over Ocean when Tau < 0.3.

Rationale: The performance values were flowed down from the Level 1 and Level 2 documents. The AOT product accuracy and precision are to be determined by comparing it to AERONET with specific matchup criteria: The VIIRS AOTs from pixels within a radius of 27.5 km from AERONET station are averaged and compared to hourly average of AERONET AOT; a minimum of five best quality VIIRS AOT retrievals and two AERONET observations must be available within these spatial and temporal constraints. AERONET AOT data, if observed at wavelengths other than 550 nm, should be interpolated to 550 nm using the best available methodologies Product evaluation should include the entire dynamic range, all aerosol types over all seasons.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.12_371 The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR algorithm shall calculate the AOT with the measurement precision of 0.35 or better over Ocean when Tau is > or = 0.3.

Rationale: The performance values were flowed down from the Level 1 and Level 2 documents. The AOT product accuracy and precision are to be determined by comparing it to AERONET with specific matchup criteria: The VIIRS AOTs from pixels within a radius of 27.5 km from AERONET station are averaged and compared to hourly average of AERONET AOT; a minimum of five best quality VIIRS AOT retrievals and two AERONET observations must be available within these spatial and temporal constraints. AERONET AOT data, if observed at wavelengths other than 550 nm, should be interpolated to 550 nm using the best available methodologies Product evaluation should include the entire dynamic range, all aerosol types over all seasons.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.12_372 The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR algorithm shall calculate the AOT with the measurement precision of 0.15 or better over Land when Tau < 0.1.

Rationale: The performance values were flowed down from the Level 1 and Level 2 documents. The AOT product accuracy and precision are to be determined by comparing it to AERONET with specific matchup criteria: The VIIRS AOTs from pixels within a radius of 27.5 km from AERONET station are averaged and compared to hourly average of AERONET AOT; a minimum of five best quality VIIRS AOT retrievals and two AERONET observations must be available within these spatial and temporal constraints. AERONET AOT data, if observed at

wavelengths other than 550 nm, should be interpolated to 550 nm using the best available methodologies Product evaluation should include the entire dynamic range, all aerosol types over all seasons.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.12_373 The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR algorithm shall calculate the AOT with the measurement precision of 0.25 or better over Land when Tau is between 0.1 and 0.8.

Rationale: The performance values were flowed down from the Level 1 and Level 2 documents. The AOT product accuracy and precision are to be determined by comparing it to AERONET with specific matchup criteria: The VIIRS AOTs from pixels within a radius of 27.5 km from AERONET station are averaged and compared to hourly average of AERONET AOT; a minimum of five best quality VIIRS AOT retrievals and two AERONET observations must be available within these spatial and temporal constraints. AERONET AOT data, if observed at wavelengths other than 550 nm, should be interpolated to 550 nm using the best available methodologies Product evaluation should include the entire dynamic range, all aerosol types over all seasons.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.12_374 The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR algorithm shall calculate the AOT with the measurement precision of 0.45 or better over Land when Tau > 0.8.

Rationale: The performance values were flowed down from the Level 1 and Level 2 documents. The AOT product accuracy and precision are to be determined by comparing it to AERONET with specific matchup criteria: The VIIRS AOTs from pixels within a radius of 27.5 km from AERONET station are averaged and compared to hourly average of AERONET AOT; a minimum of five best quality VIIRS AOT retrievals and two AERONET observations must be available within these spatial and temporal constraints. AERONET AOT data, if observed at wavelengths other than 550 nm, should be interpolated to 550 nm using the best available methodologies Product evaluation should include the entire dynamic range, all aerosol types over all seasons.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.12_375 The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR algorithm shall calculate the AOT with the vertical coverage and vertical cell size in Total column.

Rationale: The performance values were flowed down from the Level 1 and Level 2 documents. The AOT product accuracy and precision are to be determined by comparing it to AERONET with specific matchup criteria: The VIIRS AOTs from pixels within a radius of 27.5 km from AERONET station are averaged and compared to hourly average of AERONET AOT; a minimum of five best quality VIIRS AOT retrievals and two AERONET observations must be available within these spatial and temporal constraints. AERONET AOT data, if observed at wavelengths other than 550 nm, should be interpolated to 550 nm using the best available

methodologies Product evaluation should include the entire dynamic range, all aerosol types over all seasons.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.12_377 The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR algorithm shall calculate the APSP with the vertical cell size in Total column.

Rationale: The performance values were flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.12_378 The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR algorithm shall calculate the APSP with the measurement range in -1 to +3 alpha units.

Rationale: The performance values were flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.12_379 The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR algorithm shall calculate the APSP with the measurement accuracy of 0.3 or better in alpha units over Ocean.

Rationale: The performance values were flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.12_380 The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR algorithm shall calculate the APSP with the measurement precision of 0.6 or better in alpha units over Ocean.

Rationale: The performance values were flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: JPSS-1, JPSS-2

3.1.2 Graceful Degradation Mode Performance

SRS.01.12_314 The VIIRS Aerosol software shall use NCEP [750m Granulation] extended forecast data for fallback processing when the relevant NCEP current forecast input is not available.

Rationale: The EDR and IP software through its algorithm must generate products using back up data sources to meet the graceful degradation requirement. This software currently uses NCEP Total Column Ozone, Total Column Precipitable Water, Surface Air Temperature, Adjusted Surface Pressure, and/or Sea Surface Wind Speed and Direction forecasts. These degraded products are not required to meet the algorithm performance requirements.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.12_317 The VIIRS Aerosol software shall use Navy Aerosol Analysis and Prediction System (NAAPS) Total Optical Depth [750m Granulation] extended forecast

data for fallback processing when the Navy Aerosol Analysis and Prediction System (NAAPS) current forecast input is not available.

Rationale: The EDR and IP software through its algorithm must generate products using back up data sources to meet the graceful degradation requirement. These degraded products are not required to meet the algorithm performance requirements.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.12_318 The VIIRS Aerosol software shall use Total Optical Depth climatology [750m Granulation] for fallback processing when the NAAPS Total Optical Depth current and extended forecast input are not available.

Rationale: The EDR and IP software through its algorithm must generate products using back up data sources to meet the graceful degradation requirement. These degraded products are not required to meet the algorithm performance requirements.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

3.2 Algorithm Functional Requirements

3.2.1 Product Production Requirements

Not applicable.

3.2.2 Algorithm Science Requirements

SRS.01.12_352 The Aerosol Optical Thickness (AOT) and Particle Size Parameter (APSP) EDR geolocation software shall incorporate a computing algorithm provided for geolocation aggregation.

Rationale: The EDR software through its computing algorithm must produce AOT EDR in accordance with the JPSS VIIRS AOT and APSP ATBD (D0001-M01-S01-020).

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.12_319 The VIIRS Aerosol Optical Thickness IP software shall incorporate a computing algorithm provided for aerosol optical thickness.

Rationale: The IP software through its computing algorithm must produce Aerosol Optical Thickness IP in accordance with the JPSS VIIRS Aerosol Optical Thickness (AOT) and Particle Size Parameter ATBD (D0001-M01-S01-020).

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.12_320 Aerosol Model Information IP software shall incorporate a computing algorithm provided for Aerosol Model Information IP.

Rationale: The IP software through its computing algorithm must produce Aerosol Model Information IP in accordance with the JPSS VIIRS Aerosol Optical Thickness (AOT) and Particle Size Parameter ATBD (D0001-M01-S01-020).

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.12_321 The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR software shall incorporate a computing algorithm provided for aerosol optical thickness.

Rationale: The EDR software through its computing algorithm must produce AOT EDR in accordance with the JPSS VIIRS Aerosol Optical Thickness (AOT) and Particle Size Parameter ATBD (D0001-M01-S01-020).

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.12_322 The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR software shall incorporate a computing algorithm provided for particle size parameters.

Rationale: The EDR software through its computing algorithm must produce AOT EDR in accordance with the JPSS VIIRS Aerosol Optical Thickness (AOT) and Particle Size Parameter ATBD (D0001-M01-S01-020).

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.12_323 The VIIRS Suspended Matter EDR software shall incorporate a computing algorithm provided for suspended matter type.

Rationale: The EDR software through its computing algorithm must produce SM EDR in accordance with the JPSS VIIRS Suspended Matter ATBD (D0001-M01-S01-019).

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.12_358 The VIIRS Suspended Matter EDR software shall incorporate a computing algorithm provided for smoke concentration.

Rationale: The EDR software through its computing algorithm must produce SM EDR in accordance with the JPSS VIIRS Suspended Matter ATBD (D0001-M01-S01-019).

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

3.2.3 Algorithm Exception Handling

SRS.01.12_324 The VIIRS Aerosol Optical Thickness IP software shall set <FillField> to <FillValue> according to <FillCondition> specified in the JPSS Algorithm Specification Vol IV: SRSPF for the Aerosols Products (474-00448-04-12) <AeroOptThickIP><fill>.

Rationale: The IP software through its computing algorithm must fill the aerosol optical thickness IP values based on the established fill conditions to satisfy exclusion and fill conditions.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.12_325 The VIIRS Aerosol Model Information IP software shall set <FillField> to <FillValue> according to <FillCondition> specified in the JPSS Algorithm Specification Vol IV: SRSPF for the Aerosols Products (474-00448-04-12) <AeroModInfoIP><fill>.

Rationale: The IP software through its computing algorithm must fill the aerosol model information IP values based on the established fill conditions to satisfy exclusion and fill conditions.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.12_326 The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR software shall set <FillField> to <FillValue> according to <FillCondition> specified in the JPSS Algorithm Specification Vol IV: SRSPF for the Aerosols Products (474-00448-04-12) <AeroOptThickEDR><fill>.

Rationale: The EDR software through its computing algorithm must fill the aerosol optical thickness and aerosol particle size parameter values based on the established fill conditions to satisfy exclusion and fill conditions.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.12_327 The VIIRS Suspended Matter EDR software shall set <FillField> to <FillValue> according to <FillCondition> specified in the JPSS Algorithm Specification Vol IV: SRSPF for the Aerosols Products (474-00448-04-12) <SuspMatterEDR><fill>.

Rationale: The EDR software through its computing algorithm must fill the aerosol optical thickness and aerosol particle size parameter values based on the established fill conditions to satisfy exclusion and fill conditions.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.12_328 The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR geolocation software shall set <FillField> to <FillValue> according to <FillCondition> specified in the JPSS Algorithm Specification Vol IV: SRSPF for the Aerosols Products (474-00448-04-12) <VIIRS_Aerosol_GEO><fill>.

Rationale: The EDR software through its computing algorithm must fill the aerosol optical thickness and aerosol particle size parameter values based on the established fill conditions to satisfy exclusion and fill conditions.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

3.3 External Interfaces

3.3.1 Inputs

SRS.01.12_329 The VIIRS Aerosol Optical Thickness IP software shall incorporate inputs as specified in Table 3-1.

Rationale: The IP generation software must be able to receive and process the resource interaction items shown in Table 3-1 in order to produce the intended VIIRS Aerosol Optical Thickness IP products.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.12_330 The VIIRS Aerosol Model Information IP software shall incorporate inputs specified in Table 3-1.

Rationale: The IP generation software must be able to receive and process the resource interaction items shown in Table 3-1 in order to produce the intended VIIRS Aerosol Model Information IP products.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.12_331 The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR software shall incorporate inputs specified in Table 3-1.

Rationale: The EDR generation software must be able to receive and process the resource interaction items shown in Table 3-1 in order to produce the intended VIIRS AOT products.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.12_332 The VIIRS Suspended Matter EDR software shall incorporate inputs specified in Table 3-1.

Rationale: The EDR generation software must be able to receive and process the resource interaction items shown in Table 3-1 in order to produce the intended VIIRS SM products.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.12_383 The VIIRS Aerosol EDR software shall ingest tables and coefficients formatted in accordance with Section 7 of the JPSS Algorithm Specification Vol II: Data Dictionary for Aerosol Products (474-00448-02-12).

Rationale: This defines the formats for Lookup Tables, and Processing Coefficients for input into the algorithm module.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

Table 3-1 and Figure 3-1 are best viewed together since they describe the processes governed by this SRS in different ways. The figure diagrams the data flowing into, out of, and within the code governed by this SRS. The table lists these same data interactions as well as all downstream dependencies for outputs from this SRS.

Each row in the table describes a single software interaction - data flowing from one software item to another. The data is listed in the first column. The second and third columns include the short name and mnemonic for the data. Blanks indicate there is no mnemonic. The fourth (Source SRS) and fifth (Receiving SRS) columns contain the SRS that generates the data product(s) in the first column, and the SRS that receives those products. The final two columns

(Sending Function and Receiving Function) contain the actual function name in Algorithm Development Library (ADL) that produces those products, and the function that inputs those products. The SRS's titled "Ingest MSD" and "Store/Retrieve" are non-existent SRS's functioning as data handling for the IDPS. The software functions "Store Products" and "Retrieve Products" are similar non-existent functions that operate as IDPS data handling.

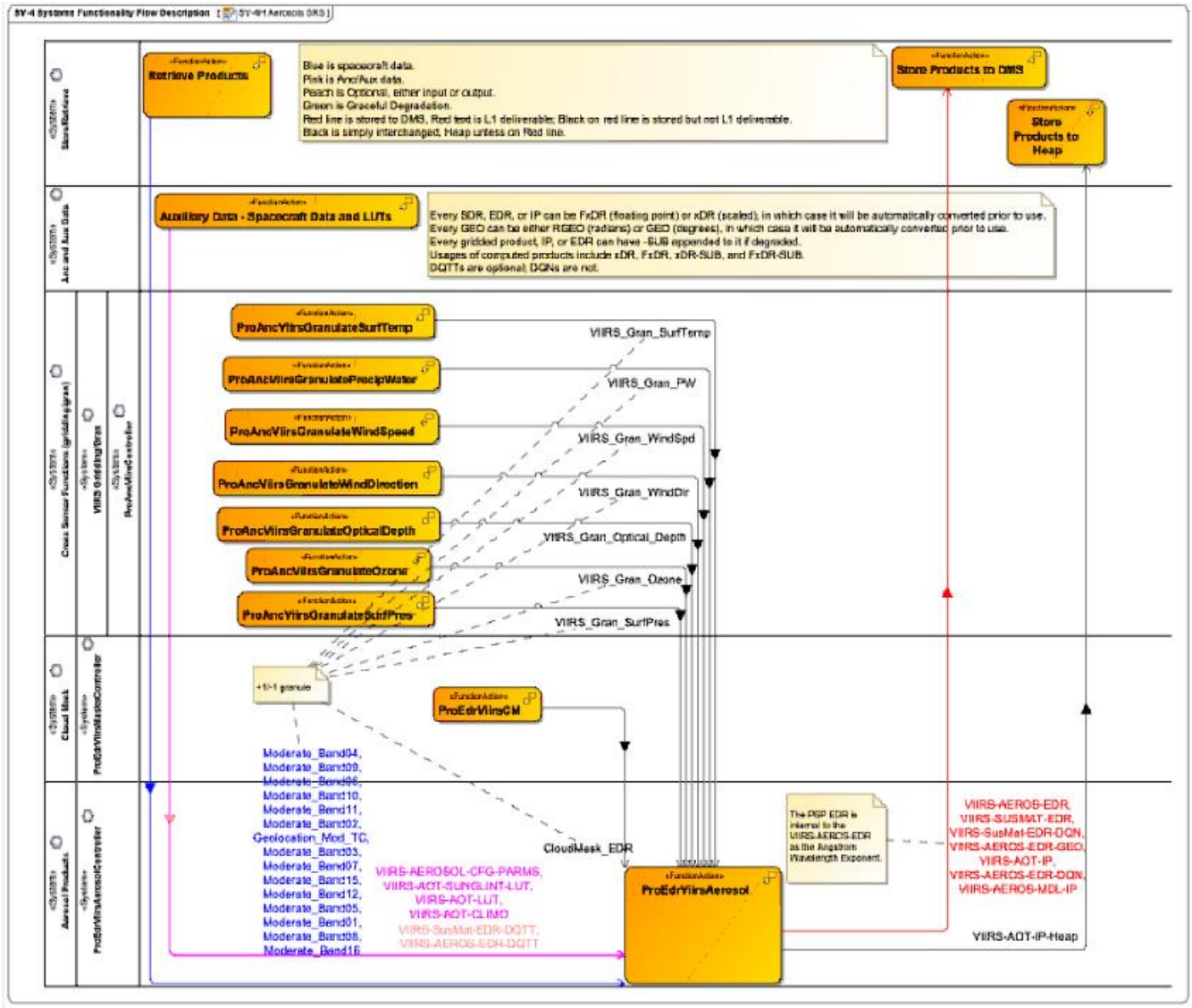

Figure: 3-1 Aerosol Products Data Flows

Table: 3-1 Systems Resource Flow Matrix: Aerosol Products

Data Product Name	Collection Short Name	Mnemonic	Sending SRS	Receiving SRS	Sending Function	Receiving Function
•Moderate_Band04 •Moderate_Band09 •Moderate_Band06 •Moderate_Band10 •Moderate_Band11 •Moderate_Band02 •Geolocation_Mod_TC •Moderate_Band03 •Moderate_Band07 •Moderate_Band15 •Moderate_Band12 •Moderate_Band05 •Moderate_Band01 •Moderate_Band08 •Moderate_Band16	•VIIRS-M4-SDR •VIIRS-M9-SDR •VIIRS-M6-SDR •VIIRS-M10-SDR •VIIRS-M11-SDR •VIIRS-M2-SDR •VIIRS-MOD-RGEO-TC •VIIRS-M3-SDR •VIIRS-M7-SDR •VIIRS-M15-SDR •VIIRS-M12-SDR •VIIRS-M5-SDR •VIIRS-M1-SDR •VIIRS-M8-SDR •VIIRS-M16-SDR	•SDRE-VM04-C0030 •SDRE-VM09-C0030 •SDRE-VM06-C0030 •SDRE-VM10-C0030 •SDRE-VM11-C0030 •SDRE-VM02-C0030 •None •SDRE-VM03-C0030 •SDRE-VM07-C0030 •SDRE-VM15-C0030 •SDRE-VM12-C0030 •SDRE-VM05-C0030 •SDRE-VM01-C0030 •SDRE-VM08-C0030 •SDRE-VM16-C0030	Store/Retrieve (VIIRS SDR)	Aerosol Products	Retrieve Products	ProEdrViirs Aerosol
•VIIRS-AEROSOL-CFG-PARMS •VIIRS-AOT-SUNGLINT-LUT •VIIRS-AOT-LUT •VIIRS-AOT-CLIMO	•VIIRS-Aeros-EDR-AC •VIIRS-AOT-Sunglint-LUT •VIIRS-AOT-LUT •AOT-ANC	•DP_NU-LM2020-010 •NP_NU-LM0040-001 •NP_NU-LM0040-000 •AN_NP-L10010-001	Anc and Aux Data	Aerosol Products	Auxiliary Data - Spacecraft Data and LUTs	ProEdrViirs Aerosol
•VIIRS-SusMat-EDR-DQTT •VIIRS-AEROS-EDR-DQTT	•VIIRS-SusMat-EDR-DQTT •VIIRS-Aeros-EDR-DQTT	•DP_NU-LM2030-000 •DP_NU-LM2030-000	Anc and Aux Data	Aerosol Properties	Auxiliary Data - Spacecraft Data and LUTs	ProEdrViirs Aerosol
•CloudMask_EDR	•VIIRS-CM-EDR	•EDRE_CMIP_C0030	Cloud Mask	Aerosol Products	ProEdrViirsCM	ProEdrViirs Aerosol
•VIIRS_Gran_Optical_Depth	•VIIRS-ANC-Optical-Depth-Mod-Gran	•None	Grid Gran	Aerosol Products	ProAncViirs GranulateOpticalDepth	ProEdrViirs Aerosol
•VIIRS_Gran_Ozone	•VIIRS-ANC-Tot-Col-Mod-Gran	•None	Grid Gran	Aerosol Products	ProAncViirs GranulateOzone	ProEdrViirs Aerosol

Data Product Name	Collection Short Name	Mnemonic	Sending SRS	Receiving SRS	Sending Function	Receiving Function
•VIIRS_Gran_PW	•VIIRS-ANC-Preci-Wtr-Mod-Gran	•None	Grid Gran	Aerosol Products	ProAncViirsGranulatePrecipWater	ProEdrViirsAerosol
•VIIRS_Gran_SurfPres	•VIIRS-ANC-Press-Surf-Mod-Gran	•None	Grid Gran	Aerosol Products	ProAncViirsGranulateSurfPres	ProEdrViirsAerosol
•VIIRS_Gran_SurfTemp	•VIIRS-ANC-Temp-Surf2M-Mod-Gran	•None	Grid Gran	Aerosol Products	ProAncViirsGranulateSurfTemp	ProEdrViirsAerosol
•VIIRS_Gran_WindDir	•VIIRS-ANC-Wind-Direction-Mod-Gran	•None	Grid Gran	Aerosol Products	ProAncViirsGranulateWindDirection	ProEdrViirsAerosol
•VIIRS_Gran_WindSpd	•VIIRS-ANC-Wind-Speed-Mod-Gran	•None	Grid Gran	Aerosol Products	ProAncViirsGranulateWindSpeed	ProEdrViirsAerosol
•VIIRS-AOT-IP	•VIIRS-Aeros-Opt-Thick-IP	•IMPI_VAOT_R0100	Aerosol Properties	Cryosphere	ProEdrViirsAerosol	ProEdrViirsIceAge
•VIIRS-AOT-IP	•VIIRS-Aeros-Opt-Thick-IP	•IMPI_VAOT_R0100	Aerosol Properties	Cryosphere	ProEdrViirsAerosol	ProEdrViirsIceQual
•VIIRS-AOT-IP	•VIIRS-Aeros-Opt-Thick-IP	•IMPI_VAOT_R0100	Aerosol Properties	Cryosphere	ProEdrViirsAerosol	ProEdrViirsIceSurfTemp
•VIIRS-AOT-IP •VIIRS-AEROS-MDL-IP	•VIIRS-Aeros-Opt-Thick-IP •VIIRS- Aeros-Modl-Info-IP	•IMPI_VAOT_R0100 •IMPI_VAMI_R0100	Aerosol Properties	Surface Albedo	ProEdrViirsAerosol	ProEdrViirsLandSurfAlbedo
•VIIRS-AOT-IP	•VIIRS-Aeros-Opt-Thick-IP	•IMPI_VAOT_R0100	Aerosol Properties	Land Surface Temperature	ProEdrViirsAerosol	ProEdrViirsLst
•VIIRS-AOT-IP •VIIRS-SUSMAT-EDRSCALED	•VIIRS-Aeros-Opt-Thick-IP •VIIRS-SusMat-EDR	•IMPI_VAOT_R0100	Aerosol Properties	Surface Albedo	ProEdrViirsAerosol	ProEdrViirsNHF
•VIIRS-AOT-IP	•VIIRS-Aeros-Opt-Thick-IP	•IMPI_VAOT_R0100	Aerosol Properties	Snow Cover	ProEdrViirsAerosol	ProEdrViirsSnow
•VIIRS-AOT-IP	•VIIRS-Aeros-Opt-Thick-IP	•IMPI_VAOT_R0100	Aerosol Properties	Sea Surface Temperature	ProEdrViirsAerosol	ProEdrViirsSst
•VIIRS-AOT-IP	•VIIRS-Aeros-Opt-Thick-IP •VIIRS- Aeros-Modl-Info-IP	•IMPI_VAOT_R0100 •IMPI_VAMI_R0100	Aerosol Properties	Surface Reflectance	ProEdrViirsAerosol	ProEdrViirsSurfReflect

Data Product Name	Collection Short Name	Mnemonic	Sending SRS	Receiving SRS	Sending Function	Receiving Function
•VIIRS-SUSMAT-EDR •VIIRS-SusMat-EDR-DQN •VIIRS-AEROS-EDR-GEO •VIIRS-AOT-IP •VIIRS-AEROS-EDR-DQN •VIIRS-AEROS-MDL-IP	•VIIRS-Aeros-EDR •VIIRS-SusMat-EDR •VIIRS-SusMat-EDR-DQN •VIIRS-Aeros-EDR-GEO •VIIRS-Aeros-Opt-Thick-IP •VIIRS-Aeros-EDR-DQN •VIIRS- Aeros-Modl-Info-IP	•EDRE-AOTH-C1030 •EDRE-VRSM-C0030 •DP_NU-L00090-001 •None •IMPI_VAOT_R0100 •DP_NU-L00090-001 •IMPI_VAMI_R0100	Aerosol Properties	Store/Retrieve	ProEdrViirsAerosol	Store Products to DMS
•VIIRS-AOT-IP-Heap	•VIIRS-Aeros-Opt-Thick-IP-Heap	None	Aerosol Properties	Store/Retrieve	ProEdrViirsAerosol	Store Products to Heap

3.3.2 Outputs

SRS.01.12_333 The VIIRS Aerosol Optical Thickness IP software shall generate the VIIRS Aerosol Optical Thickness IP product in conformance with the XML format file in Attachment A.3 of the JPSS Algorithm Specification Vol II: Data Dictionary for the Aerosols Products (474-00448-02-12).

Rationale: The product profile must conform to the XML format file.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.12_334 The VIIRS Aerosol Model Information IP software shall generate the VIIRS Aerosol Model Information IP product in conformance with the XML format file in Attachment A.4 of the JPSS Algorithm Specification Vol II: Data Dictionary for the Aerosols Products (474-00448-02-12).

Rationale: The product profile must conform to the XML format file.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.12_335 The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR software shall generate the VIIRS AOT EDR product in conformance with the XML format file in Attachment A.1 of the JPSS Algorithm Specification Vol II: Data Dictionary for the Aerosols Products (474-00448-02-12).

Rationale: The product profile must conform to the XML format file.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.12_336 The VIIRS Suspended Matter EDR software shall generate the VIIRS SM EDR product in conformance with the XML format file in Attachment A.2 of the JPSS Algorithm Specification Vol II: Data Dictionary for the Aerosols Products (474-00448-02-12).

Rationale: The product profile must conform to the XML format file.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.12_361 The VIIRS Aerosol Optical Thickness and Particle Size Parameter EDR geolocation software shall generate the Aerosol Optical Thickness and Particle Size Parameter EDR geolocation product in conformance with the XML format file in Attachment A.5 of the JPSS Algorithm Specification Vol II: Data Dictionary for the Aerosols Products (474-00448-02-12).

Rationale: The product profile must conform to the XML format file.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.12_337 The VIIRS Aerosol Optical Thickness IP software shall use the terrain-corrected geolocation for the VIIRS M-band.

Rationale: The product must be associated with the terrain-corrected geolocation to meet the geolocation accuracy requirement.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.12_338 The VIIRS Aerosol Model Information IP software shall use the terrain-corrected geolocation for the VIIRS M-band.

Rationale: The product must be associated with the terrain-corrected geolocation to meet the geolocation accuracy requirement.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.12_339 The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR software shall use the VIIRS aerosol geolocation.

Rationale: The product must be associated with the Aerosol geolocation to meet the geolocation accuracy requirement.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.12_340 The VIIRS Suspended Matter EDR software shall use the terrain corrected geolocation for the VIIRS M-band.

Rationale: The product must be associated with the terrain-corrected geolocation to meet the geolocation accuracy requirement.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.12_362 The VIIRS Aerosol Optical Thickness and Particle Size Parameter EDR geolocation software shall generate the Aerosol Optical Thickness and Particle Size Parameter EDR geolocation aggregated from the VIIRS M-band SDR terrain-corrected geolocation.

Rationale: The product must be associated with the terrain-corrected geolocation to meet the geolocation accuracy requirement.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.12_384 The VIIRS Suspended Matter EDR software shall use the terrain-corrected geolocation for the VIIRS M-band SDR.

Rationale: The product must be associated with the terrain-corrected geolocation to meet the geolocation accuracy requirement.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

3.4 Science Standards

Not applicable.

3.5 Metadata Output

Not applicable.

3.6 Quality Flag Content Requirements

SRS.01.12_341 The VIIRS Aerosol Optical Thickness IP software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the JPSS Algorithm Specification Vol IV: SRSPF for the Aerosols Products (474-00448-04-12) <AeroOptThickIP><QF>.

Rationale: Quality Flags must be generated based on the established flag conditions, logic, and format.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.12_343 The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the JPSS Algorithm Specification Vol IV: SRSPF for the Aerosols Products (474-00448-04-12) <AeroOptThickEDR><QF>.

Rationale: Quality Flags must be generated based on the established flag conditions, logic, and format.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.12_344 The VIIRS Suspended Matter EDR software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the JPSS Algorithm Specification Vol IV: SRSPF for the Aerosols Products (474-00448-04-12) <SuspMatterEDR><QF>.

Rationale: Quality Flags must be generated based on the established flag conditions, logic, and format.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.12_345 The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR geolocation software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the JPSS Algorithm Specification Vol IV: SRSPF for the Aerosols Products (474-00448-04-12) <VIIRS_Aerosols_GEO><QF>.

Rationale: Quality Flags must be generated based on the established flag conditions, logic, and format.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

3.7 Data Quality Notification Requirements

SRS.01.12_346 The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR software shall send data quality notifications to the operator according to logic specified in the JPSS Algorithm Specification Vol II: Data Dictionary for the Aerosols Products (474-00448-02-12) <AeroOptThickEDR><Notification>.

Rationale: Notifications must be generated and sent based on the established logic and conditions.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.12_347 The VIIRS Suspended Matter EDR software shall send data quality notifications to the operator according to logic specified in the JPSS Algorithm Specification Vol II: Data Dictionary for the Aerosols Products (474-00448-02-12) <SuspMatterEDR><Notification>.

Rationale: Notifications must be generated and sent based on the established logic and conditions.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

3.8 Adaptation

Not applicable.

3.9 Provenance Requirements

Not applicable.

3.10 Computer Software Requirements

Not applicable.

3.11 Software Quality Characteristics

Not applicable.

3.12 Design and Implementation Constraints

SRS.01.12_348 The JPSS Common Ground System shall execute the VIIRS AOT IP algorithm.

Rationale: The CGS must incorporate algorithm changes that are supplied by the algorithm vendor.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.12_349 The JPSS Common Ground System shall execute the VIIRS Aerosol Model Information algorithm.

Rationale: The CGS must incorporate algorithm changes that are supplied by the algorithm vendor.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.12_350 The JPSS Common Ground System shall execute the VIIRS AOT and APSP algorithms.

Rationale: The CGS must incorporate algorithm changes that are supplied by the algorithm vendor.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.12_359 The JPSS Common Ground System shall execute the VIIRS Aerosol Optical Thickness and Particle Size Parameter Geolocation algorithm.

Rationale: The CGS must incorporate algorithm changes that are supplied by the algorithm vendor.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.12_351 The JPSS Common Ground System shall execute the VIIRS Suspended Matter algorithm.

Rationale: The CGS must incorporate algorithm changes that are supplied by the algorithm vendor.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

3.13 Personnel Related Requirements

Not applicable.

3.14 Training Requirements

Not applicable.

3.15 Logistics Related requirements

Not applicable.

3.16 Other Requirements

Not applicable.

3.17 Packaging Requirements

Not applicable.

3.18 Precedence and Criticality

Not applicable.

Appendix A. Requirements Attributes

The Requirements Attributes Table lists each requirement with CM-controlled attributes including requirement type, mission effectivity, requirement allocation(s), block start and end, method(s) for verifying each requirement, etc.

Req ID	SRS 12 - Aerosol Products	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
SRS.01.12_311	The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR algorithm shall calculate the aerosol product at 412, 445, 488, 550, 555, 672, 746, 865, 1240, 1610, and 2250 nm.	P	EDR	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.12_312	The VIIRS Suspended Matter EDR algorithm shall detect dust, volcanic ash, and smoke at any altitude.	P	EDR	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.12_353	The Suspended Matter EDR algorithm shall provide smoke concentrations between 0 and 150 micrograms per cubic meter.	P	EDR	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.12_354	The Suspended Matter EDR algorithm probability of correct typing of suspended matter shall be 80% or better.	P	EDR	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.12_355	The Suspended Matter EDR algorithm probability of correct typing of dust shall be 80% or better.	P	EDR	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.12_356	The Suspended Matter EDR algorithm probability of correct typing of volcanic ash shall be 60% or better.	P	EDR	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.12_357	The Suspended Matter EDR algorithm probability of correct typing of smoke shall be 70% or	P	EDR	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA

Req ID	SRS 12 - Aerosol Products	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	better.									
SRS.01.12_364	The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR algorithm shall calculate the aerosol optical thickness (AOT) with the measurement range of 0 to 2 in Tau.	P	EDR	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.12_365	The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR algorithm shall calculate the AOT with the measurement accuracy of 0.08 or better over Ocean when Tau < 0.3.	P	EDR	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.12_366	The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR algorithm shall calculate the AOT with the measurement accuracy of 0.15 or better over Ocean when Tau is > or = 0.3.	P	EDR	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.12_367	The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR algorithm shall calculate the AOT with the measurement accuracy of 0.06 or better over Land when Tau < 0.1.	P	EDR	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.12_368	The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR algorithm shall calculate the aerosol optical thickness (AOT) with the	P	EDR	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA

Req ID	SRS 12 - Aerosol Products	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	measurement accuracy of 0.05 or better over Land when Tau is between 0.1 and 0.8.									
SRS.01.12_369	The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR algorithm shall calculate the AOT with the measurement accuracy of 0.2 or better over Land when Tau > 0.8.	P	EDR	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.12_370	The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR algorithm shall calculate the AOT with the measurement precision of 0.15 or better over Ocean when Tau < 0.3.	P	EDR	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.12_371	The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR algorithm shall calculate the AOT with the measurement precision of 0.35 or better over Ocean when Tau is > or = 0.3.	P	EDR	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.12_372	The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR algorithm shall calculate the AOT with the measurement precision of 0.15 or better over Land when Tau < 0.1.	P	EDR	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.12_373	The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR algorithm shall	P	EDR	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA

Req ID	SRS 12 - Aerosol Products	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	calculate the AOT with the measurement precision of 0.25 or better over Land when Tau is between 0.1 and 0.8.									
SRS.01.12_374	The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR algorithm shall calculate the AOT with the measurement precision of 0.45 or better over Land when Tau > 0.8.	P	EDR	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.12_375	The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR algorithm shall calculate the AOT with the vertical coverage and vertical cell size in Total column.	P	EDR	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.12_377	The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR algorithm shall calculate the APSP with the vertical cell size in Total column.	P	EDR	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.12_378	The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR algorithm shall calculate the APSP with the measurement range in -1 to +3 alpha units.	P	EDR	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.12_379	The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR algorithm shall calculate the APSP with the	P	EDR	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA

Req ID	SRS 12 - Aerosol Products	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	measurement accuracy of 0.3 or better in alpha units over Ocean.									
SRS.01.12_380	The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR algorithm shall calculate the APSP with the measurement precision of 0.6 or better in alpha units over Ocean.	P	EDR	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.12_314	The VIIRS Aerosol software shall use NCEP [750m Granulation] extended forecast data for fallback processing when the relevant NCEP current forecast input is not available.	G	EDR IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.12_317	The VIIRS Aerosol software shall use Navy Aerosol Analysis and Prediction System (NAAPS) Total Optical Depth [750m Granulation] extended forecast data for fallback processing when the Navy Aerosol Analysis and Prediction System (NAAPS) current forecast input is not available.	G	EDR IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.12_318	The VIIRS Aerosol software shall use Total Optical Depth climatology [750m Granulation] for fallback processing when the NAAPS Total Optical Depth current and extended forecast input are not available.	G	EDR IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.12_352	The Aerosol Optical Thickness (AOT) and Particle Size Parameter	Ap	GEO	S-NPP JPSS-1	algorithm provider	2.0.0	3.0.0	Inspection	NA	NA

Req ID	SRS 12 - Aerosol Products	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	(APSP) EDR geolocation software shall incorporate a computing algorithm provided for geolocation aggregation.			JPSS-2						
SRS.01.12_319	The VIIRS Aerosol Optical Thickness IP software shall incorporate a computing algorithm provided for aerosol optical thickness.	Ap	IP	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.12_320	Aerosol Model Information IP software shall incorporate a computing algorithm provided for Aerosol Model Information IP.	Ap	IP	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.12_321	The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR software shall incorporate a computing algorithm provided for aerosol optical thickness.	Ap	EDR	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.12_322	The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR software shall incorporate a computing algorithm provided for particle size parameters.	Ap	EDR	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.12_323	The VIIRS Suspended Matter EDR software shall incorporate a computing algorithm provided for suspended matter type.	Ap-D	EDR	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.12_358	The VIIRS Suspended Matter EDR software shall incorporate a computing algorithm provided for	Ap	EDR	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Inspection	NA	NA

Req ID	SRS 12 - Aerosol Products	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	smoke concentration.									
SRS.01.12_324	The VIIRS Aerosol Optical Thickness IP software shall set <FillField> to <FillValue> according to <FillCondition> specified in the JPSS Algorithm Specification Vol IV: SRSPF for the Aerosols Products (474-00448-04-12) <AeroOptThickIP><fill>.	E	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.12_325	The VIIRS Aerosol Model Information IP software shall set <FillField> to <FillValue> according to <FillCondition> specified in the JPSS Algorithm Specification Vol IV: SRSPF for the Aerosols Products (474-00448-04-12) <AeroModInfoIP><fill>.	E	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.12_326	The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR software shall set <FillField> to <FillValue> according to <FillCondition> specified in the JPSS Algorithm Specification Vol IV: SRSPF for the Aerosols Products (474-00448-04-12) <AeroOptThickEDR><fill>.	E	EDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.12_327	The VIIRS Suspended Matter EDR software shall set <FillField> to <FillValue> according to <FillCondition> specified in the JPSS Algorithm Specification Vol	E	EDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA

Req ID	SRS 12 - Aerosol Products	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	IV: SRSPF for the Aerosols Products (474-00448-04-12) <SuspMatterEDR><fill>.									
SRS.01.12_328	The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR geolocation software shall set <FillField> to <FillValue> according to <FillCondition> specified in the JPSS Algorithm Specification Vol IV: SRSPF for the Aerosols Products (474-00448-04-12) <VIIRS_Aerosol_GEO><fill>.	E	GEO	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.12_329	The VIIRS Aerosol Optical Thickness IP software shall incorporate inputs as specified in Table 3-1.	I	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.12_330	The VIIRS Aerosol Model Information IP software shall incorporate inputs specified in Table 3-1.	I	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.12_331	The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR software shall incorporate inputs specified in Table 3-1.	I	EDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.12_332	The VIIRS Suspended Matter EDR software shall incorporate inputs specified in Table 3-1.	I	EDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.12_383	The VIIRS Aerosol EDR software shall ingest tables and coefficients formatted in accordance with Section	Ft	EDR IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA

Req ID	SRS 12 - Aerosol Products	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	7 of the JPSS Algorithm Specification Vol II: Data Dictionary for Aerosol Products (474-00448-02-12).									
SRS.01.12_333	The VIIRS Aerosol Optical Thickness IP software shall generate the VIIRS Aerosol Optical Thickness IP product in conformance with the XML format file in Attachment A.3 of the JPSS Algorithm Specification Vol II: Data Dictionary for the Aerosols Products (474-00448-02-12).	F	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.12_334	The VIIRS Aerosol Model Information IP software shall generate the VIIRS Aerosol Model Information IP product in conformance with the XML format file in Attachment A.4 of the JPSS Algorithm Specification Vol II: Data Dictionary for the Aerosols Products (474-00448-02-12).	F	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.12_335	The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR software shall generate the VIIRS AOT EDR product in conformance with the XML format file in Attachment A.1 of the JPSS Algorithm Specification Vol II: Data Dictionary for the Aerosols Products (474-00448-02-	F	EDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA

Req ID	SRS 12 - Aerosol Products	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	12).									
SRS.01.12_336	The VIIRS Suspended Matter EDR software shall generate the VIIRS SM EDR product in conformance with the XML format file in Attachment A.2 of the JPSS Algorithm Specification Vol II: Data Dictionary for the Aerosols Products (474-00448-02-12).	F	EDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.12_361	The VIIRS Aerosol Optical Thickness and Particle Size Parameter EDR geolocation software shall generate the Aerosol Optical Thickness and Particle Size Parameter EDR geolocation product in conformance with the XML format file in Attachment A.5 of the JPSS Algorithm Specification Vol II: Data Dictionary for the Aerosols Products (474-00448-02-12).	F	GEO	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.12_337	The VIIRS Aerosol Optical Thickness IP software shall use the terrain-corrected geolocation for the VIIRS M-band.	Fg	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.12_338	The VIIRS Aerosol Model Information IP software shall use the terrain-corrected geolocation for the VIIRS M-band.	Fg	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.12_339	The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR software shall use	Fg	EDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA

Req ID	SRS 12 - Aerosol Products	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	the VIIRS aerosol geolocation.									
SRS.01.12_340	The VIIRS Suspended Matter EDR software shall use the terrain corrected geolocation for the VIIRS M-band.	Fg	EDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.12_362	The VIIRS Aerosol Optical Thickness and Particle Size Parameter EDR geolocation software shall generate the Aerosol Optical Thickness and Particle Size Parameter EDR geolocation aggregated from the VIIRS M-band SDR terrain-corrected geolocation.	Fg	GEO	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.12_384	The VIIRS Suspended Matter EDR software shall use the terrain-corrected geolocation for the VIIRS M-band SDR.	Fg	EDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.12_341	The VIIRS Aerosol Optical Thickness IP software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the JPSS Algorithm Specification Vol IV: SRSPF for the Aerosols Products (474-00448-04-12) <AeroOptThickIP><QF>.	Q	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.12_343	The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the JPSS Algorithm Specification	Q	EDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA

Req ID	SRS 12 - Aerosol Products	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	Vol IV: SRSPF for the Aerosols Products (474-00448-04-12) <AeroOptThickEDR><QF>.									
SRS.01.12_344	The VIIRS Suspended Matter EDR software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the JPSS Algorithm Specification Vol IV: SRSPF for the Aerosols Products (474-00448-04-12) <SuspMatterEDR><QF>.	Q	EDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.12_345	The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR geolocation software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the JPSS Algorithm Specification Vol IV: SRSPF for the Aerosols Products (474-00448-04-12) <VIIRS_Aerosols_GEO><QF>.	Q	GEO	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.12_346	The VIIRS Aerosol Optical Thickness and Aerosol Particle Size Parameter EDR software shall send data quality notifications to the operator according to logic specified in the JPSS Algorithm Specification Vol II: Data Dictionary for the Aerosols Products (474-00448-02-12) <AeroOptThickEDR><Notification>.	N	EDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA

Req ID	SRS 12 - Aerosol Products	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
SRS.01.12_347	The VIIRS Suspended Matter EDR software shall send data quality notifications to the operator according to logic specified in the JPSS Algorithm Specification Vol II: Data Dictionary for the Aerosols Products (474-00448-02-12) <SuspMatterEDR><Notification>.	N	EDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.12_348	The JPSS Common Ground System shall execute the VIIRS AOT IP algorithm.	Ai	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.12_349	The JPSS Common Ground System shall execute the VIIRS Aerosol Model Information algorithm.	Ai	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.12_350	The JPSS Common Ground System shall execute the VIIRS AOT and APSP algorithms.	Ai	EDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.12_359	The JPSS Common Ground System shall execute the VIIRS Aerosol Optical Thickness and Particle Size Parameter Geolocation algorithm.	Ai	GEO	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.12_351	The JPSS Common Ground System shall execute the VIIRS Suspended Matter algorithm.	Ai	EDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA